UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KEMAL GULER, TONGWEI LIU, and HSIU-KHUERN TANG

Appeal 2006-3156
Application 09/904,311
Technology Center 1700

ON BRIEF

Before ANITA PELLMAN GROSS, STUART S. LEVY, and ROBERT E. NAPPI, *Administrative Patent Judges*.

GROSS, *Administrative Patent Judge*.

STATEMENT OF THE CASE

Guler, Liu, and Tang (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 22 through 47, which are all of the claims pending in this application.

Appellants' invention relates to a method and system for determining risk attitudes and private information of bidders in an auction. Claim 22 is illustrative of the claimed invention, and it reads as follows:

22. A method for determining private information and risk attitudes comprising:

accessing, from computer system memory, auction data from previously conducted auctions, wherein the auction data comprises bids submitted in utility-dependent auctions and bids submitted in utility-independent auctions, wherein the utility-dependent auctions comprise auctions in which bidding behavior depends on risk attitudes and the utility-independent auctions comprise auctions in which bidding behavior does not depend on risk attitudes;

determining private information using the bids submitted in the utility-independent auctions; and

determining risk attitudes using the private information and the bids submitted in the utility-dependent auctions.

The prior art references of record relied upon by the Examiner in rejecting the appealed claims are:

Hogg	US 2002/0073009 A1	Jun. 13, 2002 (filed Dec. 08, 2000)
Bansal	US 2003/0009421 A1	Jan. 09, 2003 (filed Jul. 09, 2001)

Claims 22, 26, 30, 34, 39, and 42 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bansal in view of Hogg.

We refer to the Examiner's Answer (mailed May 15, 2006) for the Examiner's complete reasoning and to Appellants' Brief (filed March 10, 2006) for Appellants' counterarguments.

SUMMARY OF DECISION

As a consequence of our review, we will reverse the obviousness rejection of claims 22 through 47. We also remand for the Examiner to review the claims for statutory subject matter under 35 U.S.C. § 101 in view of the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (1300 *Off. Gaz. Pat. Office* 142 (Nov. 22, 2005)).

ISSUE

The Examiner rejects independent claims 22, 26, 30, 34, 39, and 42 as being obvious over Bansal in view of Hogg. Specifically, the Examiner asserts (Answer 3-4) that Bansal discloses a method for determining a bidder's risk attitude, but does not disclose determining a bidder's private information from bids submitted in utility-independent auctions. The Examiner further asserts (Answer 4) that Hogg discloses the step of determining a bidder's private information. The Examiner contends (Answer 4) that it would have been obvious to include in Bansal's method determining private information "because Hogg et al teaches that important information may be gathered from such information in any auction (para 0005) and because Hogg et al teaches variability in information needed (para 0024)."

Appellants contend (Br. 12) that "'risk attitude' refers to an unknown or unobservable element of the market structure of an auction that represents the attitude of bidders toward risk" and that Bansal does not disclose determining risk attitudes. Further, Appellants contend (Br. 13) that the Examiner has failed to provide sufficient motivation to combine the cited references. The sole issue in this case is whether the Examiner established a prima facie case of obviousness over Bansal and Hogg.

OPINION

We find that Bansal discloses (para. 0131) that an online intermediary stores information such as data on buyers and sellers and "data for determining the effects of uncertainties and risks of various kinds." Bansal further discloses (para. 0143) that buyers and sellers sometimes wish to take risky positions in the market. The various positions represent buyers' and sellers' attitudes towards risk, or risk attitudes. Bansal states (para. 0167) that the description applies to sealed bid auctions, which Appellants disclose (Specification, p. 4) are utility-dependent auctions. Thus, we find that Bansal teaches determining risk attitudes from bids submitted in utility-dependent auctions, as recited in independent claims 22 and 39. Arguably Bansal likewise discloses determining private information, as Bansal teaches storing data on buyers and sellers. However, the information stored is derived from the same auctions as the risk attitudes, and, therefore, from utility-dependent auctions rather than from utility-independent auctions.

We find that Hogg discloses (para. 0005) storing and analyzing bid information in an auction. More particularly, Hogg teaches (para. 0022) processing the highest bids or amounts that bidders are willing to pay for a specific item. We find no suggestion in Hogg (para. 24 or anywhere else) to include in Bansal's method a step of determining a bidder's private information submitted in a utility-independent auction, as recited in claims 22 and 39. Thus, the Examiner has failed to establish a prima facie case of obviousness for claims 22 and 39. Each of claims 26, 34, and 42 requires determining both risk attitudes from utility-dependent auction bids and also private information from utility-independent auction bids, either as steps performed by a processor or the functions recited as part of a means-plus-function. Similarly, claim 30

recites causing a processor to estimate risk attitudes and to estimate private information. Since we found no suggestion to include both determinations, the combination of references fails to render claims 26, 30, 34, and 42 obvious. Accordingly, we cannot sustain the rejection under 35 U.S.C. § 103 of claims 22, 26, 30, 34, 39, and 42.

We remand this application, however, for the examiner to review the claims for statutory subject matter under 35 U.S.C. § 101 in view of the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (1300 *Off. Gaz. Pat. Office* 142 (Nov. 22, 2005)). We will discuss claims 22 and 30 in the explanation *infra*.

The guidelines first require a determination as to whether the claims as a whole are directed to nothing more than abstract ideas, natural phenomena, or laws of nature. Clearly none of the claims recites a natural phenomena nor a law of nature, so the issue is whether they are directed to an abstract idea. We note that it is generally difficult to ascertain whether a process is merely an abstract idea, particularly since claims are often drafted to include minor physical limitations such as data gathering steps or post-solution activity. The present claims are machine-implemented. However, the question (even for the claims which recite a computer system[1], such as claim 26, or a storage

[1] A general purpose computer or a storage medium (which includes a computer program capable of performing certain functions when executed by a machine) falls into the statutory category of machines, manufactures, and compositions of matter. A claim directed to a new machine structure or a new storage medium structure is clearly a patentable machine or manufacture under §101. However, a general purpose machine programmed to perform particular functions (and thus effectively a special purpose computer according to *In re Alappat*, 33 F.3d 1526, 1554, 31 USPQ2d 1545, 1558 (Fed. Cir. 1994) (en banc)) which merely performs an abstract idea,

medium, such as claim 30) is whether the claims *as a whole* are nothing more than abstract ideas.

In claim 22, the steps of accessing data from memory, determining private information from the data, and determining risk attitudes from the data sound very much like an abstract idea. The determination of private information from the accessed data appears to be a sort of calculation with no specificity as to how the determination is made. The determination of risk attitudes is substantially the establishment of a mental state. Similarly, claim 30 recites a storage medium including instructions that perform the steps of retrieving data, estimating private information based on the data, and estimating risk attitudes based on the data. Estimating private information again appears to be a mathematical function, and estimating risk attitudes is substantially the determination of a mental state. Therefore, claims 22 and 30 appear to be nothing more than abstract ideas, and, therefore, are excluded from patent protection.

Nonetheless, if the claims are found to be directed to more than abstract ideas, then the next step set forth in the guidelines is to determine whether the claimed invention is directed to a practical application of an abstract idea, law

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such as a mathematical algorithm, has been held nonstatutory as an attempt to patent the abstract idea itself, *see Gottschalk v. Benson*, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972) ("nutshell holding") and *In re de Castelet*, 562 F.2d 1236, 1243, 195 USPQ 439, 445 (CCPA 1977) (discussing nutshell language). We believe the same analysis applies to a manufacture that stores a program that causes a machine to perform an abstract idea. In other words, we believe that the nominal recitation of a manufacture does not preclude the claim from being nonstatutory subject matter just as the nominal recitation of a machine does not preclude a claim from being nonstatutory subject matter.

of nature, or natural phenomenon. Again the claims involve neither a law of nature nor natural phenomenon, so the issue is whether they are directed to a practical application of an abstract idea. The guidelines indicate that either a transformation of physical subject matter to a different state or thing or the production of a useful, concrete, and tangible result equates to a practical application of an abstract idea. The subject matter transformed may be tangible (matter) or intangible (some form of energy, such as the conversion of electrical signals or the conversion of heat into other forms of energy (thermodynamics)), but it must be physical. Further, we note that the useful, concrete, and tangible result test was set forth in *State Street Bank & Trust Co. v. Signature Finance Group, Inc.*, 149 F.3d 1368, 1373; 47 USPQ2d 1596, 1601 (Fed. Cir. 1998), in the context of a machine implemented process, and would, therefore, apply to the present claims. If the examiner determines that the claims are not directed to a practical application of an abstract idea (i.e., that they do not transform physical subject matter to a different state or thing nor produce a useful, concrete, tangible result), then the claims should be rejected under 35 U.S.C. § 101 as being non-statutory.

Turning again to claim 22, we find no transformation of physical subject matter to a different state or thing, nor do we find a production of a useful, concrete, and tangible result. Claim 22 merely manipulates data to obtain another form of data, "private information," and also calculates "risk attitudes," which is substantially a mental state. Neither step transforms *physical subject matter*, to a different *state or thing*. Further, neither result seems to be a concrete and tangible result. Similarly, the instructions of claim 30 suffer the same problems. Therefore, we would conclude that claims 22 and 30 are non-

statutory under 35 U.S.C. § 101. However, the Examiner should independently review all of the claims for compliance with 35 U.S.C. § 101.

Accordingly, it is ORDERED that the application is remanded to the examiner to consider a rejection under 35 U.S.C. § 101 in view of the guidelines.

ORDER

The decision of the examiner rejecting claims 22 through 47 under 35 U.S.C. § 103 is reversed. Further, this case is remanded to the examiner for further consideration of a rejection under 35 U.S.C. § 101.

REVERSED and REMANDED

ANITA PELLMAN GROSS
Administrative Patent Judge

STUART S. LEVY
Administrative Patent Judge

ROBERT E. NAPPI
Administrative Patent Judge

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